

Name: _____ Date: _____
A2&T: Law of cosines

DO NOW:

Find all values of θ in the interval $0 \leq \theta \leq 360^\circ$ that satisfy the equation: $4\cos^2 \theta - 3\sin \theta + 1 = 0$

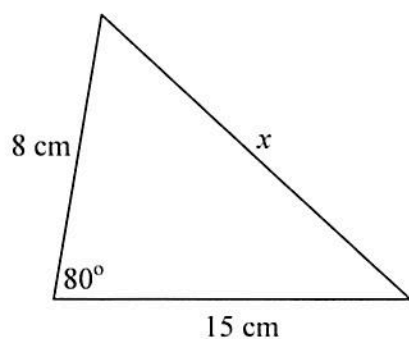
A] Pythagorean Theorem: $c^2 = a^2 + b^2$

This tool is very weak, since it only applies to _____ triangles.

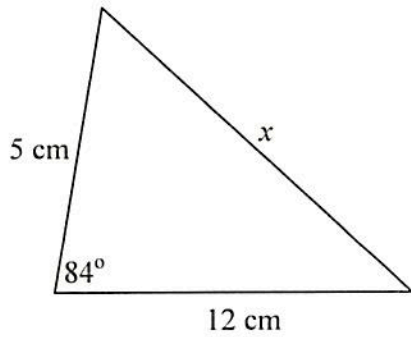
We need something stronger...

B] The Law of Cosines:

1) Find the missing side *to the nearest tenth*.



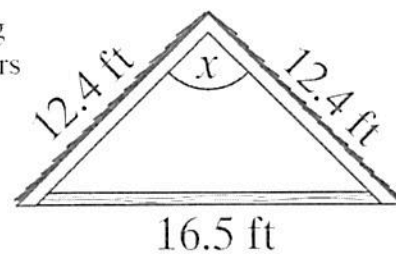
2) Find the missing side *to the nearest hundredth*.



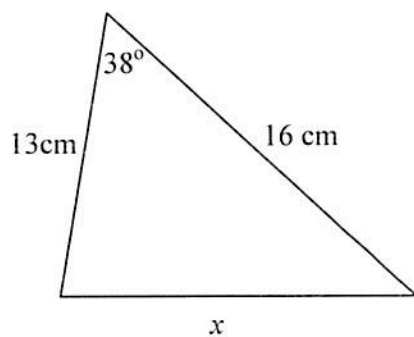
3) In $\triangle ABC$, $a = 10$, $c = 7$, and $m\angle B = 77^\circ$. Find the length of the third side of the triangle (nearest tenth).

4) In $\triangle ABC$, $b = 4$, $c = 4$, and $m\angle A = 60^\circ$. Find the exact value of the third side of the triangle.

- 5) A beam 16.5 feet long supports a roof with rafters each measuring 12.4 feet long. What is the measure of the angle at which the rafters meet?



- 6) Find the missing side *to the nearest tenth*.



- 7) Find the missing side *to the nearest tenth*.

